



Multi-Touch Table: Materials

Items:

- Infrared Camera
- Infrared Filter
- Infrared LED's (x4)
- Diffuser
- Acrylic (Plexiglas)
- Wood

Budget

Item	Price	Quantity	Total
100 pack of 8 1/2 inch screws	8.10	1	8.10
24 x 18 Acrylic pane	24.50	1	24.50
2" x 2" x 8' Pine	5.20	1	5.20
2" x 2" x 6' Pine	3.90	6	23.40
48" x 48" x 1/8" Hardboard	5.50	4	22.00
24" x 48" x 1/2" Medium Density Firberboard	8.50	1	8.50
Playstation 3 Eye	39.99	1	39.99
Vent Cover	5.00	1	5.00
Infra-red LED Clusters	16.00	4	64.00
Total			\$200.70

Tools:

- Electric Drill
- Screwdriver
- Scissors
- Screws (60)
- 'C' Clamps
- Duct Tape



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Infrared Camera

Playstation 3 Eye



Pros:

- No lag (Max 125 FPS)
- Inexpensive

Cons:

- Requires custom drivers
- Somewhat difficult to remove IR Filter

Infrared Filter

Exposed Film



Pros:

- Free
- Blocks most visible light

Cons:

- Blocks some IR light

*Note: to get the best results we used 2 pieces of exposed film as our infrared filter.



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Infrared Lights

48 IR LED Cluster (x4)



Pros:

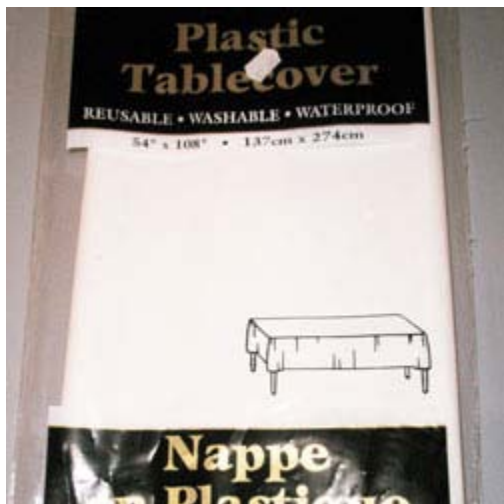
- Easy to set up (No soldering required)

Cons:

- Cannot be used for a FTIR setup

Diffuser

Plastic Tablecloth



Pros:

- Very Inexpensive (\$1)
- Good Rear-Projection surface
- Good diffuser material

Cons:

- None



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Acrylic Sheet (Plexiglas)

24" by 18" by 1/8"



Pros:

- Strong
- Won't shatter like normal glass
- Protects the diffuser sheet from being ripped

Cons:

- Gets dirty and scratched easily

Tools

Other tools needed to construct our box

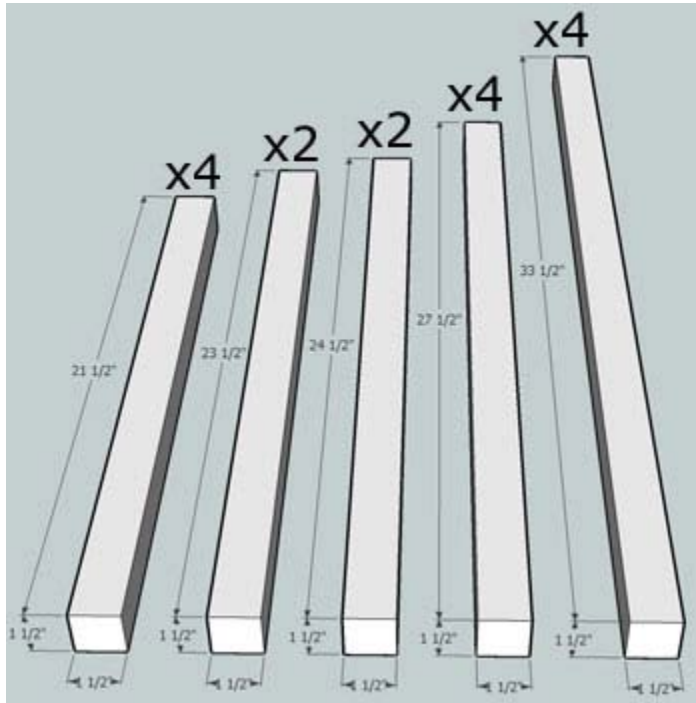


- Electric Drill
- Screws (around 60)
- Screwdriver
- Clamps
- Scissors
- Duct tape



Wood

Frame

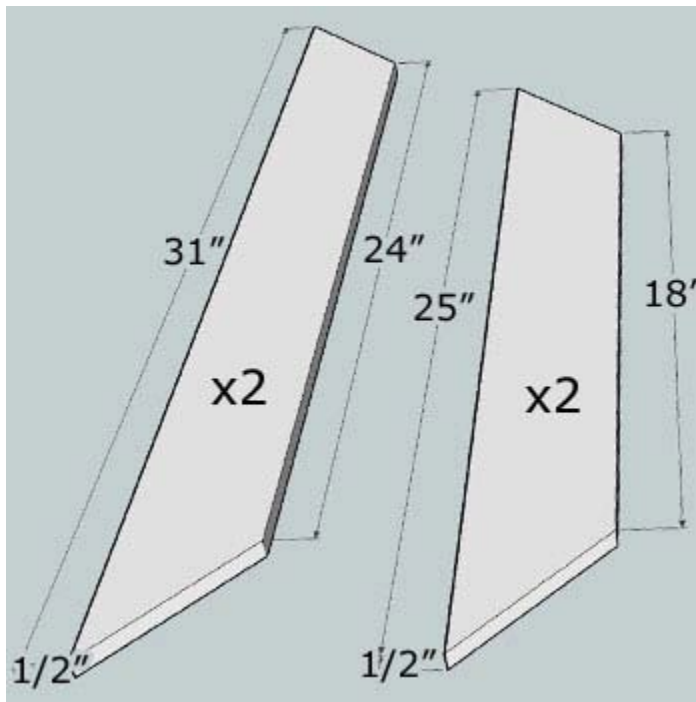


We used 2 by 2 inch pine to construct the frame of the box.

- 4 : 1 1/2 x 1 1/2 x 21 1/2 inch pine
- 2 : 1 1/2 x 1 1/2 x 23 1/2 inch pine
- 2 : 1 1/2 x 1 1/2 x 24 1/2 inch pine
- 4 : 1 1/2 x 1 1/2 x 27 1/2 inch pine
- 4 : 1 1/2 x 1 1/2 x 33 1/2 inch pine

* Note: although the actual dimensions are 1 1/2 by 1 1/2, this will be called 2 by 2 at your hardware store.

Top Panel

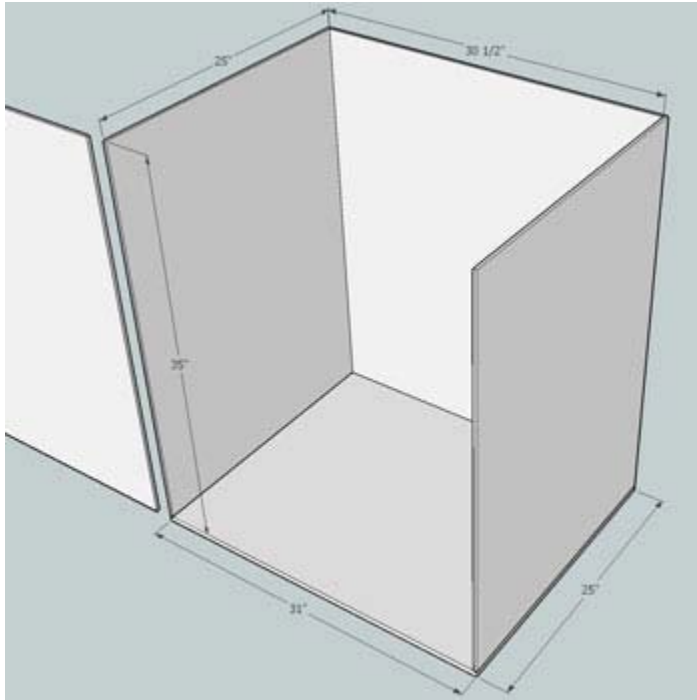


We used 1/2 inch thick MDF, cut at a 45 degree angle to frame the touch screen and keep the sheet of acrylic in place.



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Side Panels and Base



Panels:

- 2 : 35 x 25 x 1/8 inch hardboard
- 2 : 35 x 30 1/2 x 1/8 inch hardboard

Base:

- 31 x 25 x 1/2 inch MDF



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Alternate Camera Options:

Xbox Vision Camera



Pros:

- Works without special drivers on windows computers
- Relativley easy to modify

Cons:

- Somewhat laggy (Max 30 FPS)

IR Web cam



Pros:

- No modification necessary
- Inexpensive

Cons:

- Really laggy (Max 15 FPS)



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Alternate Infrared Filter Options:

Inside of a floppy disk



Pros:

- Inexpensive / Free
- Blocks most visible light

Cons:

- Blocks a lot of IR light

IR Band pass Filter



Pros:

- Blocks almost all visible light
- Does not block IR light

Cons:

- Expensive



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Alternate IR LED Options:

Individual IR LED's



Pros:

- Can be mounted along the side of the Plexiglas for a FTIR setup

Cons:

- Difficult to set up (Soldering required)